**Top-Down Investment Analysis**

**An Honors Thesis (HONR 499)**

**By**

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**Abstract**

There are many different approaches when it comes to investing. An analyst has multiple options when choosing different securities. The top-down analysis for choosing different securities starts by looking at the big picture of the economy. It then proceeds to look at different sectors and securities based on the economic analysis. I examine this process and apply a statistical approach to go along with a qualitative breakdown of each section of the analysis.

**Acknowledgments**

I would like to thank my advisor Dr. Kris Kemper for guiding me through this project. My inspiration for this topic came from Dr. Kemper's portfolio management course. I was able to use what I had learned from him to gain experience and develop a different process to apply the top-down investment analysis.

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**Process Analysis**

Top-down investment analysis takes into consideration the macro variables that impact individual securities. There are many variations of the top-down analysis. I seek to explore my own variation of the process. The first step is evaluating the economy. For me, I wanted to add a statistical approach to the various steps of the analysis. I used gross domestic product to represent the economic landscape as a statistic. From there, a regression and the linear relationship of chosen economic indicators were used to create a forecast for gross domestic product. I would use that forecast as a constant variable to test correlation between certain sectors/industries and gross domestic product. Meanwhile, I analyzed the different steps of the process qualitatively as they pertained to the economic analysis. This approach led me to a single firm that I then examined in greater detail by looking at the company's 10-K and earnings report. I used what I had learned in the classroom to examine different possibilities in the investment process.

# Top-Down Investment Analysis

## Economic Analysis

i. Introduction

The first step in top-down security analysis is the economic analysis. Before analyzing particular sectors and securities, it is important to determine the economic landscape as a whole. For this economic analysis, Gross Domestic Product will be used to gauge the overall health of the economy, and by using a combination of economic indicators, A forecast of GDP can be found using the linear relationship of the variables in a regression.

ii. Economic Indicators

To determine a forecast for Gross Domestic Product, I wanted to find indicators that were both highly correlated with GDP and covered the major components of its calculation. These components, included in the simple equation of GDP, are consumer spending, business investment, government spending, and net exports. Fitting these conditions, the best economic indicators to be included in my regression analysis to forecast GDP were nonfarm payroll employment, manufacturing sentiment index, new private housing, change in private inventories, and government consumption expenditures.

Nonfarm Payroll Employment

According to the Bureau of Labor Statistics, this indicator measures the total number of employees on payrolls. The measure excludes private, non-profit, and self-employed employees such as farm workers. This is a significant economic variable, because it represents the largest evidence of whether the economy has incurred job growth or decline. Job growth can indicate higher output, increased consumer spending, and accelerated business investment. Thus, making nonfarm payroll employment an important leading indicator for economic growth (Bloomberg).

Manufacturing Sentiment Index

According to the Institute for Supply Management, this indicator tracks sentiment among purchasing managers at manufacturing, construction, and service firms. The ISM Manufacturing

Index is calculated from the results of queries on production, orders, inventories, employment, and prices. This index is another leading index, and in the past has been positively correlated to stock market performance. For that reason, I believe it will be a significant variable to include in my regression analysis (Bloomberg).

New Private Housing

According to the U.S. Census Bureau, the new private housing indicator tracks the number of new housing units that have been started per period. This is another important leading indicator, as housing growth can indicate financial prosperity and covers a significant portion of the population. New private housing can create a large ripple, not only for construction and home builders, but for appliance, furniture, and consumer goods industries tied to housing (Bloomberg).

Change in Private Inventories

According to the Bureau of Economic Analysis, this indicator measures the value of change in the physical volume of inventories. While not explicitly a leading indicator, change in private inventories can indicate levels of business investment and volatility. An increase in inventories can indicate a slowing economy, while a decrease can indicate an accelerated economy. Because of this correlation, and since private inventories are included in the final calculation of GDP, I believe this index is significant to include in my regression analysis ("Change in Private Inventories").

Government Consumption Expenditures

According to the Bureau of Economic Analysis, this indicator tracks gross federal investment and government expenditures. Historically, government expenditures have accounted for roughly 20% of gross domestic product and should be significant to include in my regression analysis. Government expenditures create direct demand by investing in projects such as infrastructure and defense, which in return provides wages and economic growth for employees and suppliers (U.S. Bureau of Economic Analysis).

iii. Gross Domestic Product Regression

Using historical quarterly data for gross domestic product and the economic indicators outlined previously, I performed a regression to test the significance of those variables. The parameters I used for significance are a test-statistic of less than -2 or greater than 2, and a probability value of less than .01. In addition, I wanted an adjusted R square greater than 70%. An adjusted R square of greater than .70 would indicate that the variables used, account for more than 70% of historical GDP, and the coefficients could be used to forward forecast GDP.

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.945150418 |
| R Square | 0.893309312 |
| Adjusted R Square | 0.884564174 |
| Standard Error | 0.567385719 |
| Observations | 67 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 5 | 164.4227787 | 32.88455574 | 102.1492 | 2.6048E-28 |
| Residual | 61 | 19.6375198 | 0.321926554 | | |
| Total | 66 | 184.0602985 | | | |

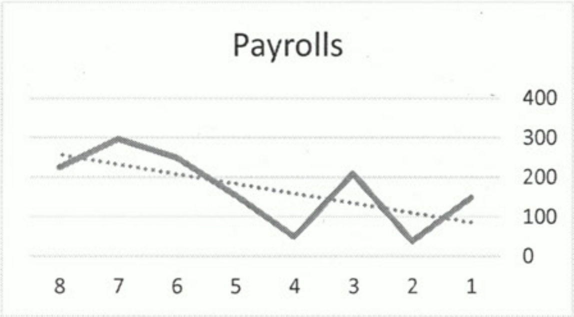
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -3.503832214 | 0.988406928 | -3.544928829 | 0.000761 | -5.480274019 | -1.527390409 | -5.480274019 | -1.527390409 |
| Payrolls | 0.001678841 | 0.000570983 | 2.940266873 | 0.004627 | 0.000537091 | 0.002820591 | 0.000537091 | 0.002820591 |
| Manufacturing | 0.067737534 | 0.018533731 | 3.654824561 | 0.000537 | 0.030677049 | 0.104798018 | 0.030677049 | 0.104798018 |
| Housing | 0.00079748 | 0.000178498 | 4.467716321 | 3.49E-05 | 0.00044055 | 0.001154409 | 0.00044055 | 0.001154409 |
| Private Inventory | 0.01614825 | 0.001498576 | 10.77572655 | 9.47E-16 | 0.013151661 | 0.019144839 | 0.013151661 | 0.019144839 |
| Government Consumption | 0.092324597 | 0.028207945 | 3.272999726 | 0.001755 | 0.035919324 | 0.148729869 | 0.035919324 | 0.148729869 |

The results of the regression confirmed that all the variables used were within my parameters and that the economic indicators were significant. According to the regression, the five variables accounted for roughly 88% of GDP data over the last 20 years. Given the variables significance, I wanted to use the linear relationship of these 5 variables to forecast GDP. In order to turn the regression into a forecasting tool, I analyzed the indicators to determine a forward-looking value to use as inputs.

iv. Indicator Forecasts

Nonfarm Payroll Employment

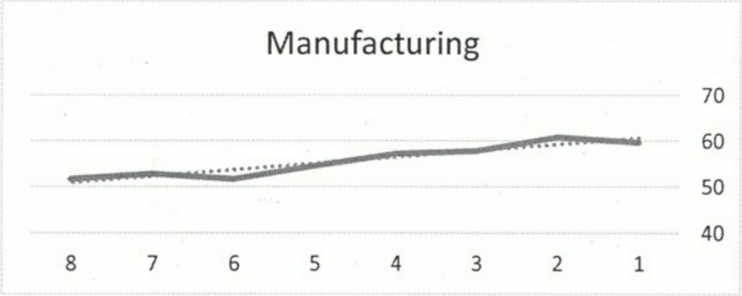
The total nonfarm payroll employment index is set to rise for the third straight quarter with strong employment data in the early months of the first quarter to add to the positive revision of fourth quarter data in 2017. With the unemployment rate holding steady now around 4%, the recent




employment data suggests continued growth in nonfarm payroll data. For that reason, my forecast will factor an increase in the indicator of roughly 250 points up from 150 basis points (Cox, 2018).

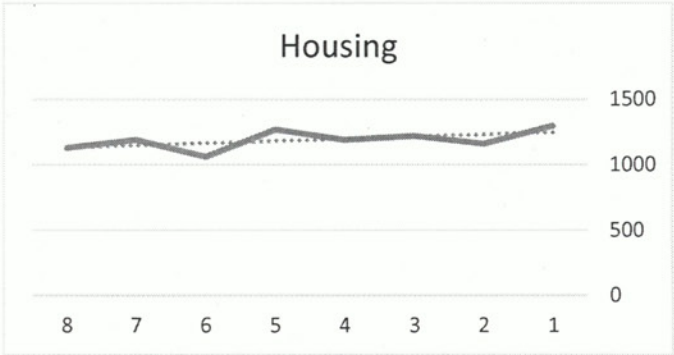
Manufacturing Sentiment Index

The ISM manufacturing index has sustained gradual growth. The first quarter results have been mixed in the months of January and February, which historically has been the case for this index. Components of the manufacturing sector indicate that growth will continue though. Since 2016, PMI, new orders, production, employment, inventories, and pricing in the manufacturing sector have been growing at a similar pace. Whereas, the only components that have been in decline are supplier deliveries and customer inventories. For that reason, I will use an eight-quarter trend line for my forecast of the indicator, giving an increase of two points from 59 to 61 (Advisors Perspectives, 2018).



New Private Housing

The new private housing index finished 2017 on a high note, recovering to its previous high from 2005. An important complement to this index is the US national home price index, which has shown new home prices increase as high as 12.7% in cities such as Seattle. Certainly, there is an increased demand in the housing market that should continue into 2018. There are also external forces that will have an impact on forecasting the new private housing indicator. The two forces that I believe will have the biggest impact are the new tax bill and interest rates. Drastic changes to the mortgage interest deduction and property tax deduction will at the very least cause Americans to be cautious in 2018, impacting the housing industry. On the other hand, it could drastically change how generations look at home buying. With states such as California, Washington, Illinois, and New York being most impacted by the deduction limits in the tax bill. The opportunity to rent becomes higher in those included cities. Because of this uncertainty, my forecast will reflect a slight decrease for this economic indicator from 1297 to 1260. (Sharf, 2018)

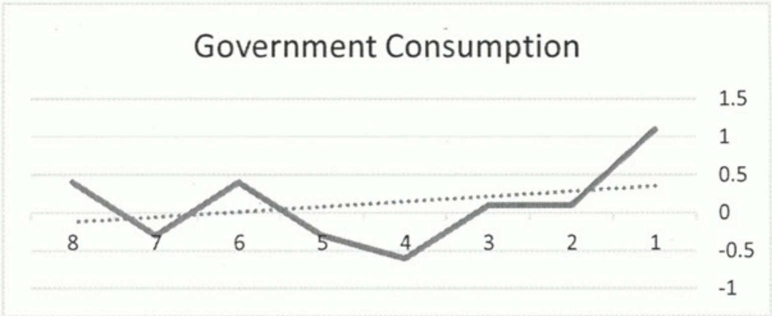



Change in Private Inventories

Private inventories have met expectations for most of the last two years. Change in inventories haven't dipped negative since 2009, during a recession. Despite reaching that level during 2016, inventories have increased steadily against expectations since. Compared to the trend line in the private inventory graph, my forecast for inventories is a moderate increase back to the 40-point range. (Strauss & Haasl, 2018)

Government Consumption Expenditures

The Congressional Budget Office estimates increased government spending based on the current budget law. It projects spending to be at 21 percent of GDP in the upcoming years, which is higher than the average of the last 25 years. The rise in spending as a percentage of GDP is cause for worry, as it should not outpace economic growth. Mandatory spending continues to have a larger impact on the budget, which could lead to a decrease in discretionary spending going forward as a result of tax cuts and ballooning debt. The graph above shows the spike in spending at the end of 2017. Based on my analysis, I will use a forecast that is along the two-year average of a positive 0.4. ("The Budget and Economic Outlook: 2017 to 2027")




v. Results

Using the linear relationship in the regression between the economic variables and GDP, I came up with an equation to forecast Gross Domestic Product which will represent the overall economy for this analysis. My forecasts for the economic variables were used as inputs in the equation to create a forecast for GDP. The output of this forecast gave me a GDP figure of 2.86%. In comparison, GDP grew at 2.3% in 2017.

**Sector Analysis**

i. Introduction

According to my economic analysis, Gross Domestic Product will grow at roughly 2.86%. This would indicate strong growth within the economy, and close to the 3% threshold of a bull market. In the sector analysis, I will look at two sectors that are positively correlated with GDP to complement the projected economic growth. From there, I will analyze the sectors from a qualitative standpoint to determine which industry will be used for the company analysis.

## ii. Sector Correlation

Given my assessment for economic growth, I performed a correlation test to see how correlated stock market sectors were to Gross Domestic Product. Using historical data for sector indexes and GDP, I found the information technology sector and the financial sector to be the highest positively correlated sectors to GDP. Since I projected economic growth, a positively correlated sector will statistically grow with GDP.

| | GDP |
|---|---|
| *Consumer Discretionary* | 0.073523031 |
| *Consumer Staples* | -0.00435683 |
| *Energy* | -0.192271383 |
| *Financials* | 0.444092908 |
| *Health Care* | 0.056728587 |
| *Industrials* | 0.08925187 |
| *Materials* | -0.031163127 |
| *Technology* | 0.342908779 |
| *Utilities* | -0.044908377 |
| *Info Tech Index* | 0.438716226 |
| *GDP* | 1 |

## iii. Financials Sector

The financial sector had the strongest correlation to Gross Domestic Product in my correlation analysis. While the financial sector generally follows stock market performance, it is not a cyclical sector. The financial sector is known to be less volatile and has a sector beta of 0.83. The sector P/E ratio is 15.89, and revenues grew at a rate of 11.14% over the last 12 months. Using the correlation strategy from the sector analysis, I performed a correlation analysis for specific industries within the financial sector. The banking industry had the highest correlation to GDP.

| | GDP |
|---|---|
| *Banks* | 0.549542 |
| *Insurance* | 0.511824 |
| *Consumer Finance* | 0.425339 |
| *Capital Markets* | 0.312044 |
| *Diversified Financials* | 0.448415 |
| *GDP* | 1 |

Banking Industry

The Banking Industry is one of the largest components of the financial sector. It has the lowest beta of financials at 0.5. Given its positive correlation to GDP, the low beta of the industry provides a good opportunity to manage risk. Price movements in the industry have been impacted by Federal Reserve rate hikes and changes to the yield curve. In the long run, an increase in rates means banks earn more revenues on loans and cash held. The positive forecasts for the economic indicators used during the economic analysis should stabilize demand for debt, attributing to revenues on loans. The current political cycle has been particularly light on banking regulations. This could benefit larger firms within the banking sector more so than smaller firms.

iv. Information Technology Sector

The next highest sector correlation to GDP is the Information Technology sector. This sector is cyclical in nature and was the highest performing sector in 2017, outperforming the market by 13%. Its P/E ratio is high at 36.48. Revenue growth for the sector was 22.42%, while EPS growth was 27.97%. Using the same correlation analysis, I narrowed the search to the electronic equipment industry which had the highest correlation to GDP.

| | GDP |
|---|---|
| *Communication Equipment* | 0.451453 |
| *Electronic Equipment* | 0.503688 |
| *Internet Software and Services* | 0.025081 |
| *Semiconductors* | 0.34516 |
| *Technology Hardware* | 0.192254 |
| *GDP* | 1 |

Electronic Equipment and Components Industry

The electronic equipment industry is highly fragmented with a large number of small firms producing various electronic equipment, instruments, and components. These products may include broadcasting/communication equipment, semiconductors, integrated circuits, etc. The industry is highly fragmented largely due to the rapid life cycle of products. As older technology becomes obsolete, firms need to adapt to stay alive. According to my economic analysis, the current forecasted economic growth would increase consumer demand for electronic devices that will positively impact producers within the industry. Another potential threat for the industry is global competition. Asia represents over half of the Electronic equipment industry, and trade concerns could threaten the industry.

v. Conclusion

The results of the sector analysis led me to evaluate the financial and information technology sector. The two highest correlated industries within these sectors were the banking industry and the electronic equipment industry. After evaluating both industries qualitatively, the banking industry offers a higher opportunity in my forecasted economy. A company with strong fundamentals could greatly benefit from the rising interest rates and regulatory peace as noted in the sector analysis.

**Industry Analysis**

i. Introduction

This section will analyze the Banking industry by going through the company screening process. I will look for potential screening criteria that relates to my economic and sector analyses. After I narrow down the list of potential firms, I will once again run a correlation analysis to historical GDP. Once this process is complete, I will be left with one firm for the company analysis.

ii. Company Screening

I chose three important financial measures as my screening criteria. They were net interest margin, return on assets, and loans-to-assets. Additionally, I specifically screened for firms that were in the banking industry and had a market capitalization of at least 1 billion.

Net Interest Margin

The first criteria that I used was trailing 12 months net interest margin. Net interest margin measures how efficiently interest is earned compared to interest paid. A firm with a positive net interest margin is better positioned to take advantage of the interest rate changes discussed in the sector analysis. My screen looked for companies that had a net interest margin over the last 12 months that was greater than the industry average.

### Return on Assets

The next screening criteria I used is return on assets. Return on assets is a profitability ratio that measures how much profit a firm earns on its assets. Similar to net interest margin, I screened for firms that had a return on assets greater than the industry average.

### Loans to Assets

The next screening criteria I used was a loans-to-assets ratio. I screened for firms that had a higher ratio than the industry average again. The purpose of this criteria was to focus on firms that could capitalize on the previous screens of net interest margin and return on assets. Banking institutions that deal primarily with loans will focus the search on interest rate positioning (Maverick, 2018).

### iii. Correlation to GDP

The four companies that resulted from my screen were Fifth Third Bancorp (FITB), MB Financial (MBFI), Western Alliance Bancorp (WAL), and Bank of Ozarks (OZRK). From there, I once again tested the correlation of these firm's stock prices to historical GDP. The firm with the highest correlation was Fifth Third Bancorp.

| | GDP |
|---|---|
| *FITB* | 0.534446 |
| *MBFI* | 0.443795 |
| *WAL* | 0.420379 |
| *OZRK* | 0.289477 |

## Company Analysis

### i. Introduction

This section will analyze the firm that the previous sections have narrowed down to. I will analyze the company by comparing its financials to its top competitors and examining the topics and issues the firm faces in both their annual report and most recent earnings report. Lastly, I will summarize the results of these findings and give a stock recommendation. The firm with the highest correlation to GDP in my industry analysis was Fifth Third Bancorp.

ii. Company Profile

Fifth Third Bancorp has four operating segments which are commercial banking, branch banking, consumer lending, and wealth and asset management. The main competitors for this firm are PNC Financial Group and US Bancorp based on size, services, and location. Fifth Third Bancorp serves 10 states with 1,154 full-service banking centers and 2,469 ATMs. The president and Chief Executive Officer is Greg Carmichael. He has been an executive with the company since 2003 before becoming CEO in 2015.

iii. Ratio Analysis

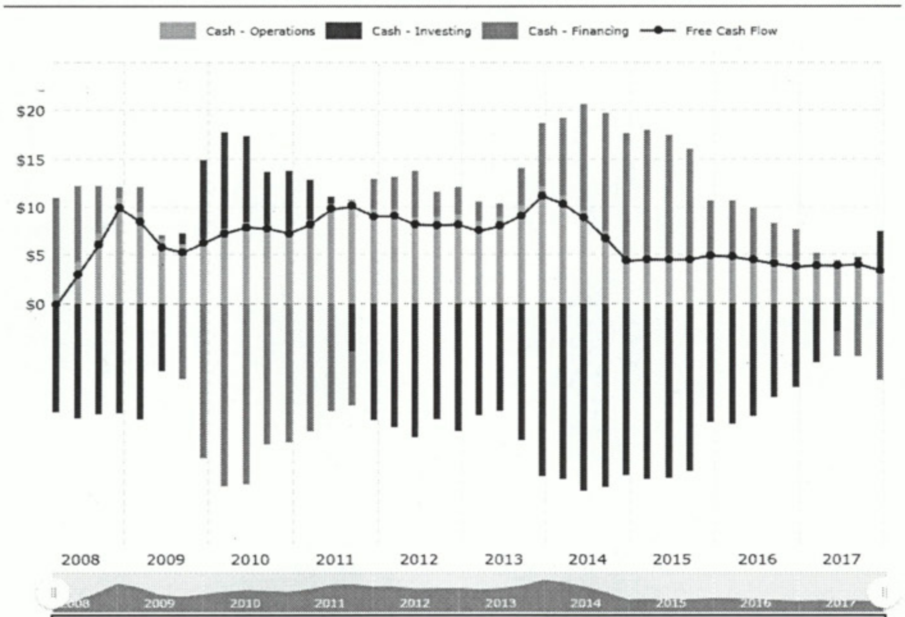
Profitability

Since starting the NorthStar initiative in 2016, Fifth Third Bancorp has been able to accelerate return growth for both assets and common equity. In 2017, they reported a return on common equity of 14.03% compared to 13.90% and 11.86% for US Bancorp and PNC Financial Services respectively. Similarly, they grew return on assets at a rate of 26% over the last three years, compared to 22% for PNC and -4% for US Bancorp. Fifth Third improved margins by 22% in 2017 while its competitors saw shrinking margins. This is evidence of the NorthStar initiatives targets being met. The initiatives have focused on cutting expenses across the board. Then expanding resources in high growth locations. 2017 saw expenses fall drastically, while also decreasing their asset base. This translated to higher margins and returns for Fifth Third Bancorp. According to their initiatives, the same strategy will continue in 2018 as they seek to begin expanding in 2019. What makes their return numbers impressive is despite decreasing their assets, they were able to grow revenues at a rate of 11% to pair with an operating margin increase of 22%. In contrast, both PNC Financial Services and US Bancorp increased their total assets and total outstanding loans and saw revenue growth of only 6.1% and 3.5% respectively. Returning to my economic analysis, a growth environment coupled with rising interest rates could allow Fifth Third Bancorp to sustain their current growth rates in the near term.

| | FITB | | | USB | | | PNC | | |
|---|---|---|---|---|---|---|---|---|---|
| In Millions of USD except Per Share | FY 2015 | FY 2016 | FY 2017 | FY 2015 | FY 2016 | FY 2017 | FY 2015 | FY 2016 | FY 2017 |
| 12 Months Ending | 12/31/2015 | 12/31/2016 | 12/31/2017 | 12/31/2015 | 12/31/2016 | 12/31/2017 | 12/31/2015 | 12/31/2016 | 12/31/2017 |
| **Returns** | | | | | | | | | |
| Return on Common Equity | 11.27 | 10.05 | 14.03 | 14.20 | 13.62 | 13.90 | 9.45 | 8.84 | 11.86 |
| Return on Assets | 1.22 | 1.10 | 1.54 | 1.43 | 1.36 | 1.37 | 1.17 | 1.08 | 1.43 |
| Return on Capital | 5.20 | 4.61 | 6.29 | 5.57 | 5.89 | 6.45 | 4.07 | 3.98 | 5.23 |
| | | | | | | | | | |
| **Margins** | | | | | | | | | |
| Operating Margin | 36.18 | 32.72 | 39.46 | 39.96 | 38.40 | 34.40 | 36.17 | 34.65 | 33.62 |
| Incremental Operating Margin | 69.63 | -133.33 | 99.30 | 22.73 | 7.41 | — | -71.33 | -403.17 | 20.31 |
| Pretax Margin | 36.18 | 32.72 | 39.46 | 39.96 | 38.40 | 34.40 | 36.17 | 34.65 | 33.62 |
| Income before XO Margin | 26.10 | 24.72 | 31.24 | 29.53 | 28.16 | 28.62 | 27.21 | 26.28 | 33.00 |
| Net Income Margin | 26.19 | 24.78 | 31.24 | 29.26 | 27.90 | 28.46 | 26.97 | 25.74 | 32.69 |
| Net Income to Common Margin | 24.82 | 23.36 | 29.85 | 27.91 | 26.48 | 27.06 | 25.38 | 24.15 | 30.94 |
| | | | | | | | | | |
| **Additional** | | | | | | | | | |
| Effective Tax Rate | 27.86 | 24.46 | 20.82 | 26.11 | 26.66 | 16.82 | 24.77 | 24.14 | 1.86 |
| Dvd Payout Ratio | 25.71 | 27.48 | 20.80 | 31.83 | 32.96 | 32.98 | 26.86 | 28.97 | 25.05 |
| Sustainable Growth Rate | 8.37 | 7.29 | 11.11 | 9.68 | 9.13 | 9.32 | 6.91 | 6.28 | 8.89 |

## Credit and Liquidity

The senior debt ratings for Fifth Third Bancorp, US Bancorp, and PNC Financial Services, according to Standard and Poor's credit agency are BBB+, A+, A-. All firms are in stable credit position. Fifth Third Bancorp along with its competitors hold a debt-to-equity ratio around .9-1.0. While this is roughly the industry average, Fifth Third Bancorp is doing it with a much larger weighting on short-term debt. While decreasing long term debt over the last three years, short-term debt has increased over 152% over the same period. Still, short-term debt only consists of 21% of total debt. Which is larger than 6% for PNC Financial Services, but less than 33% for US Bancorp. Short-term debt is often at a higher rate, so it would not be wise to continue this strategy. I believe this figure will stay around 20%, as the firm now should look to expand investment opportunities. As you can see by the graphic below, they are in a good position to expand and create a sustainable positive cash flow. They have taken a greater position in capital investments since 2015. 2017, yielded positive returns on those investments, and should continue going forward.




"FITB Cash Flow History". Macro Trends. 2018. Retrieved from http://www.macrotrends.net/stocks/charts/FITB/cash-flow/fifth-third-bk-cash-flow-history

Earnings and Dividends

Fifth Third Bancorp's stock price increased by 37.54% in 2017. It was catapulted by strong earnings per share growth of 39%. Similarly, US Bancorp reported earnings per share growth of 5.6% and 17% for PNC Financial Services. In contrast, Fifth Third Bancorp reported negative earnings growth from 2014-2016. The new initiatives the firm has undertaken since Greg Carmichael took over as CEO are starting to show financially. Despite being one of the best performers in the banking industry in 2017, ratios still suggest that Fifth Third's stock is an attractive buy. The current price-to-earnings ratio of 16.52 is roughly in line with the industry average and the price-to-book ratio of 1.45 is lower than the industry average. The increase of margins and revenues in 2017 is a result of investments undertaken since 2015 yielding positive returns. Fifth Third Bancorp is positioned even better than it was when it began this process under Carmichael in 2015. Despite that success, they remain an attractive buy at their current price level.

iv. Discussion of Earnings Report

In the fourth quarter earnings report, Fifth Third Bancorp reported net income of $2.2 billion for 2017 and earnings per share of $2.83. Both revenue and EPS figures beat market expectations. In 2016, Fifth Third Bancorp took the initiative to strengthen and optimize their balance sheet. Greg Carmichael assured investors that this process to improve credit metrics is nearly complete. Fifth Third Bancorp exited nearly $4 billion in commercial and industrial loans. By strengthening the balance sheet, they were able to raise their quarterly dividend by $0.02, ultimately returning $2 billion of capital to shareholders during 2017. Looking forward, Carmichael has launched the Fifth Third Innovation Center to enhance the customer experience. A focal point of that goal is to enhance the digital presence of Fifth Third Bancorp. The most recent app, Momentum, now has 40,000 customers that helps manage student debt. Carmichael believes the new tax legislation will benefit the economy and their core business going forward. The financial focus of the earnings call was on improving operational efficiencies and making strategic investments that boost revenue growth. Additionally, Fifth Third Bancorp has completed the sale of 19.79 million shares of Vantiv, Inc.'s class A common stock through a share repurchase at a price of $64.04 per share. There is a $20 million tax expense related to the gain on that sale. In 2018, Chief Financial Officer Tayfun Tuzun expects commercial loans to increase by 3% and consumer loans to increase by 2-3%. Tuzun also expects two rate hikes in 2018, giving Fifth Third Bancorp net interest margin of 3.15% (Fifth Third Bancorp, 2018)

v. Discussion of Form 10-K

Management is optimistic of Fifth Third Bancorp's financial condition. According to the NorthStar strategy the Bancorp launched in 2016, management is focused on building a differentiated brand and corporate reputation by increasing brand equity and improving the customer experience. By the end of 2019, this translates to a return on average tangible common equity of 14%-16%, return on average assets of 1.35%-1.45%, and an efficiency ratio under 60%. At the growth rate in my ratio analysis, they are on pace to meet these financial goals with the NorthStar strategy. Management also discussed the impact yields and the tax bill will have on their financial condition. Fifth Third Bancorp saw net interest income rise with the increase in yields as well as the decision by the Federal Open Market Committee to raise the target federal funds rate. Because of the Tax Cuts and Jobs Act, Fifth Third Bancorp recognized an income tax benefit of $220 million on deferred assets and liabilities.

When analyzing the main segments of Fifth Third Bancorp, the general corporate and other segment saw a rise in net income due to a rise in non-interest income related to the sale of Vantiv, Inc. shares. The wealth and asset management section saw a decrease in net income primarily due to a decrease in net interest income related to FTP charge rates on loans and leases. These losses were only partially offset by the increases in yields. The consumer lending segment reported a net loss of $19 million primarily due to a decrease of $66 million in mortgage banking revenue. This is an area that management believes will improve with improving market conditions. The branch banking segment has provided the greatest growth for Fifth Third Bancorp over the past three years. The segment reported net income of $494 million, primarily driven by an increase in net interest income from an increase in core deposits and FTP rates. Lastly, the commercial banking segment reported net income of $806 million, which is down from $995 million in 2016. Management is optimistic of the commercial banking segment and shrunk the balance sheet to better position themselves for the coming years.

**TABLE 18: NET INCOME (LOSS) BY BUSINESS SEGMENT**

| For the years ended December 31 ($ in millions) | | 2017 | 2016 | 2015 |
|---|---|---|---|---|
| **Income Statement Data** | | | | |
| Commercial Banking | $ | **806** | 995 | 718 |
| Branch Banking | | **494** | 431 | 297 |
| Consumer Lending | | **(19)** | 20 | 111 |
| Wealth and Asset Management | | **74** | 93 | 58 |
| General Corporate and Other | | **839** | 21 | 522 |
| Net income | | **2,194** | 1,560 | 1,706 |
| Less: Net income attributable to noncontrolling interests | | **-** | (4) | (6) |
| Net income attributable to Bancorp | | **2,194** | 1,564 | 1,712 |
| Dividends on preferred stock | | **75** | 75 | 75 |
| Net income available to common shareholders | $ | **2,119** | 1,489 | 1,637 |

vi. Conclusion

My original outlook for the economy was based on a gross domestic product forecast of 2.86%. This was a substantial increase for 2.3% in 2017. So, using my forecast for GDP, I narrowed down sectors and industries that where highly correlated. If sectors and industries had a strong positive correlation to GDP, they had a higher probability of benefitting from a higher forecast. The process led me to analyze the banking industry. To narrow down the list of firms in the banking industry, I developed criteria to screen for potential firms. Once I had a list of four firms, I again tested their performance to historical GDP data. The resulting firm with the highest correlation was Fifth Third Bancorp. After reviewing financial ratios and comparing them to competitors, as well as examining topics and issues that related to the firm. I give a buy recommendation for Fifth Third Bancorp (FITB).

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